



"The CO2 Market – mechanisms and capabilities"

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"The CO₂ Market – mechanisms and capabilities"

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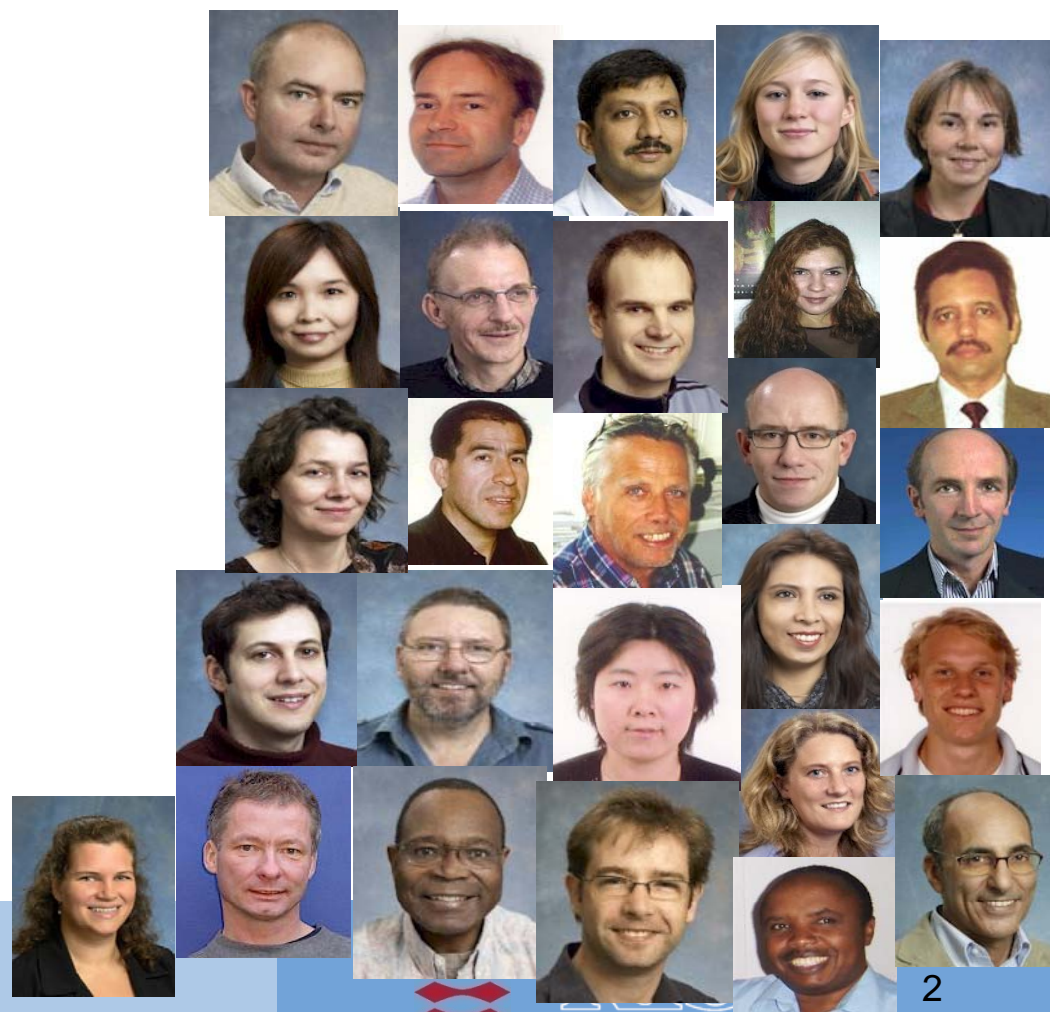
1 December 2009, Alborg University

UNEP Risoe Centre – Energy, Climate and Sustainable Development

International research team of
over 30 economists and
scientists.

Based on agreement between
Risø, UNEP and Danida.
Located at Roskilde,
Denmark since 1990.

Mandate is to support and
promote UNEP activities in
the areas of energy and
climate change, with a
special emphasis on
developing countries.



Outline

- Kyoto Protocol
- CDM
- Negotiations

Kyoto Protocol

Kyoto Protocol

Emissions reduction:

- ◆ 5.2% reduction of emissions from Annex I in 2008-12 compared to 1990
- ◆ 30% reduction compared to BaU

Flexibility mechanisms”

- ◆ Clean Development Mechanism (CDM)
- ◆ Joint Implementation
- ◆ Emissions trading

Important to see Kyoto as a first step in a longer process

Global Carbon Market

-fragmented market

Allowance market (cap and trade system)

Emission allowances are defined by regulations at the international, national, regional or firm level - Kyoto-ET, EU-ETS, Domestic: UK, Japan, Canada, Korea.
Firms: BP, Shell

Linkage between EU ETS and project-based mechanisms

Project-based (baseline and credit system)

Emission reductions are created and traded through a given project or activity (JI and CDM)

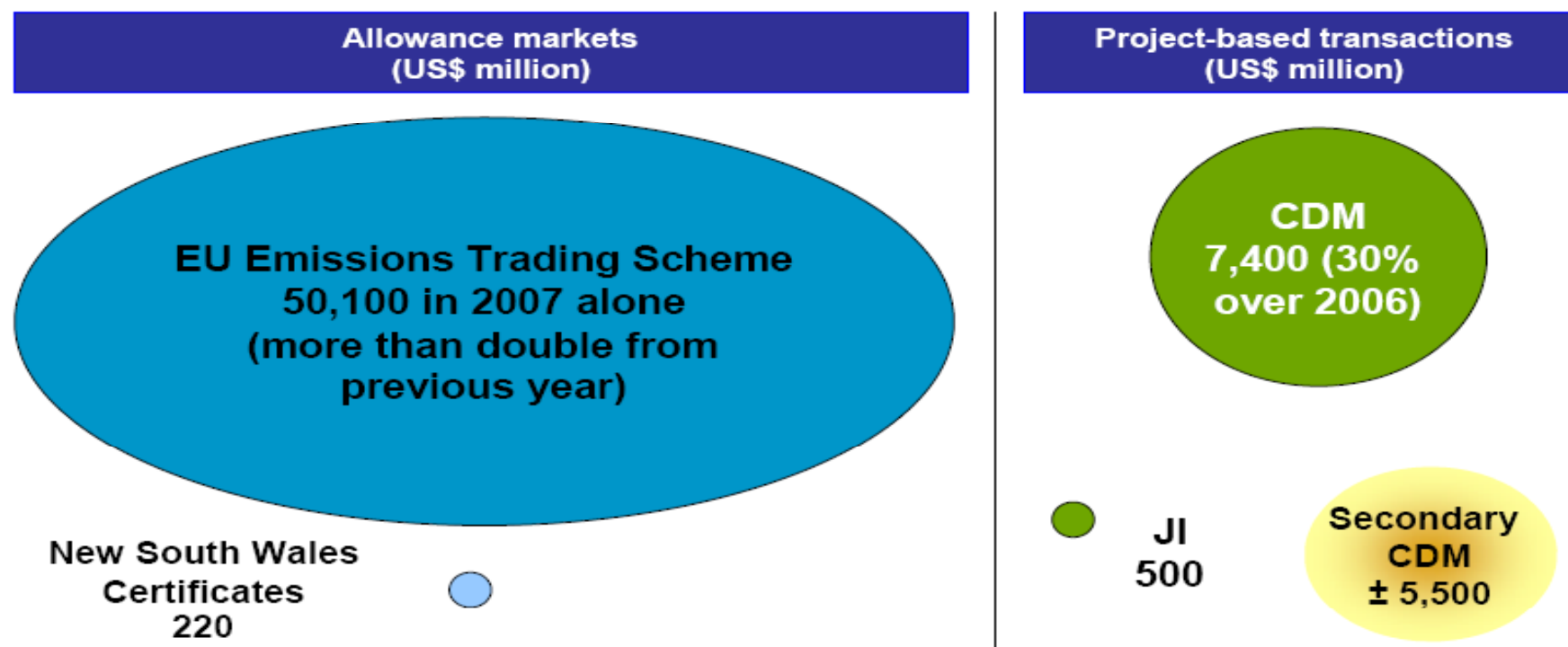
Voluntary market

Individuals and companies account and trade their greenhouse gas emissions on a voluntary basis (carbon compensation and travel compensation schemes)

Several companies expressed interest in buying project-based credits (CERs and ERUs)

Markets are likely to emerge over time as agreement widens

Carbon markets surpassed US\$100 billion by the end of 2007...



Voluntary market in 2007 – niche segments (US\$ million)

Chicago Climate Exchange
70

Voluntary & retail
270

Source: WB State and Trends of the Carbon Market 2008, Reuters 2008

12

Clean Development Mechanism (CDM)

CDM Basics

CDM allows Annex I countries meet part of their emission reduction requirements for first commitment period 2008-2012 at lower costs in non-Annex I countries than could be done domestically.

Annex I countries are allowed to acquire Certified Emission Reductions (CERs) by implementing GHG mitigating CDM projects in non-Annex I countries.

Selling CERs is an additional stream of cash inflow to the project, which improves project economics.

ODA (Official Development Assistance) funds can not be used in CDM investments.

CDM projects shall support sustainable development in the host country

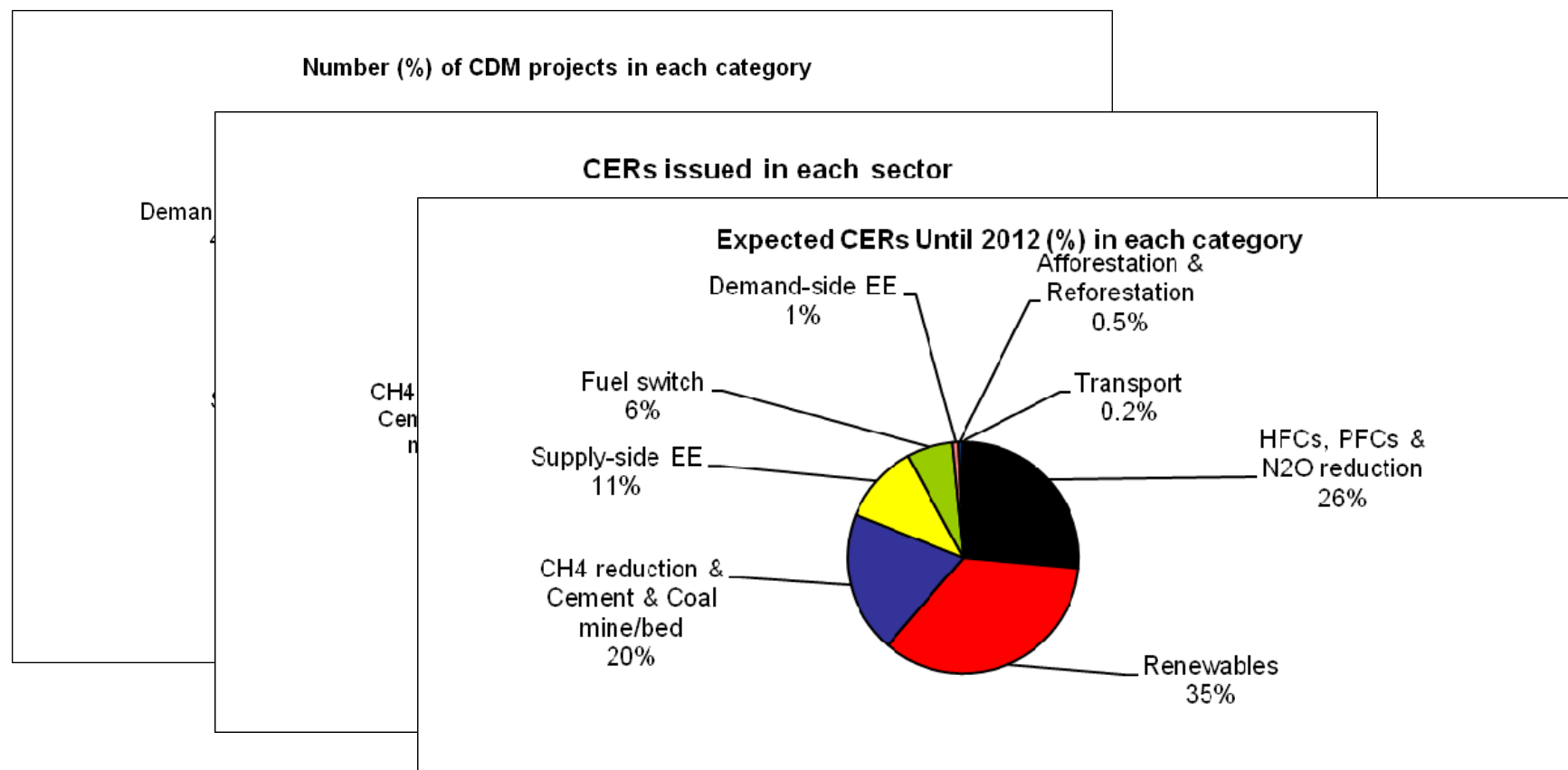
CDM is considered one of the major achievements of Kyoto

Number of CDM projects

Status of CDM projects	Number
At validation	2607
Request for registration	70
Request for review	56
Correction requested	93
Under review	13
Total in the process of registration	232
Withdrawn	40
Rejected by EB	122
Rejected by DOEs	581
Registered, no issuance of CERs	1268
Registered, CER issued	566
Total registered	1834
Total number of projects (incl. rejected & withdrawn)	5416

Source: UNEP Risoe Centre CDM Pipeline dated 1 October 2009

Types of CDM projects



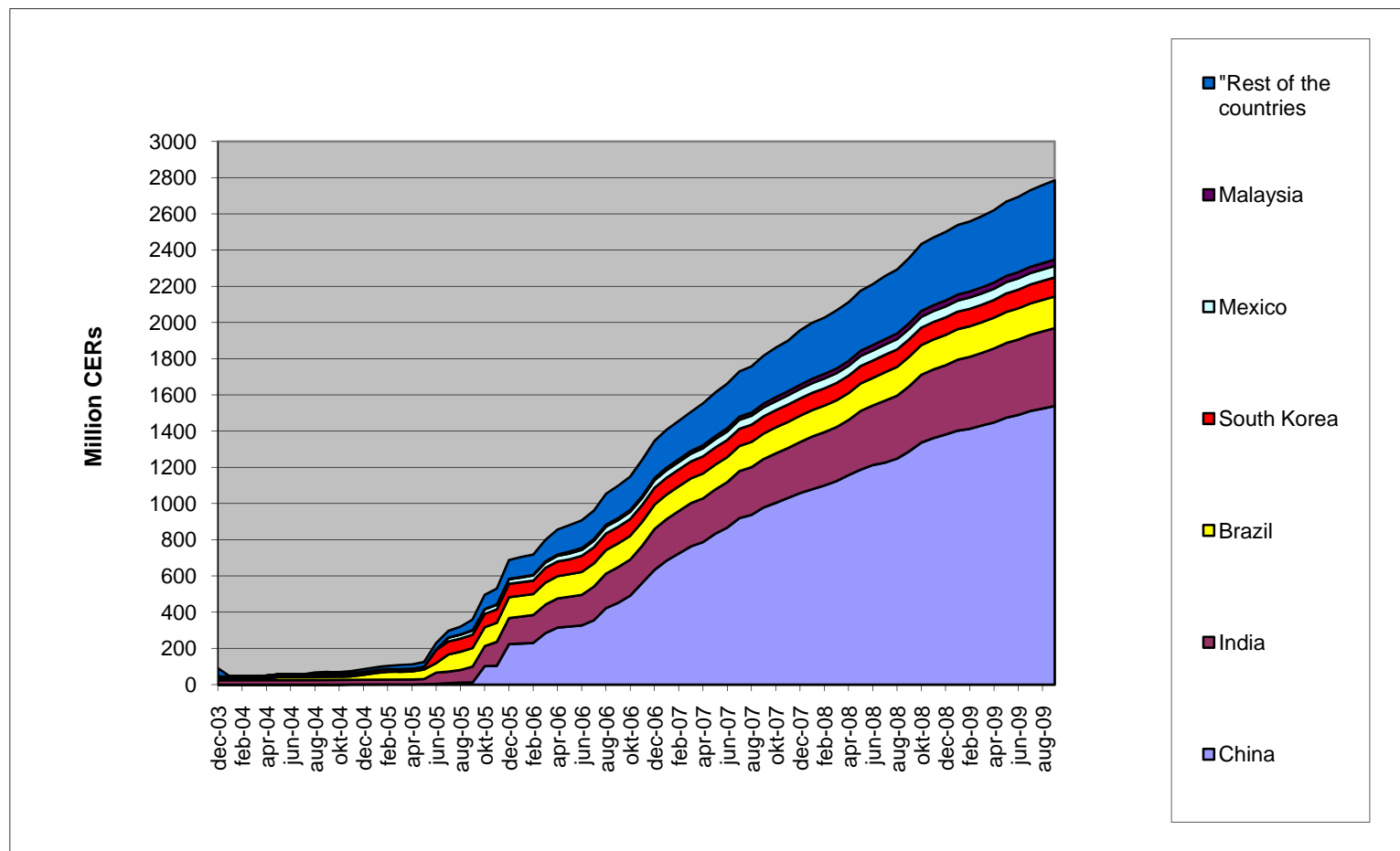
UNEP Risø CDM Pipeline, 1 November 2009

Unequal regional distribution

			For all projects			Popu- lation	2012 CER per cap.
Total in the CDM Pipeline	Number of all projects		kCERs	2012 kCERs			
Latin America	818	17.3%	79275	391206	14.0%	449	0.87
Asia & Pacific	3705	78.3%	530822	2257502	80.7%	3418	0.66
Europe and Central Asia	52	1.1%	9273	31733	1.1%	149	0.21
Africa	112	2.4%	21157	84100	3.0%	891	0.09
Middle-East	47	1.0%	7252	32751	1.2%	186	0.18
Less developed World	4734	100%	647779	2797292	100%	5093	0.55

UNEP Risø CDM Pipeline, 1 November 2009

The major host countries of CDM projects



Source: UNEP Risoe Centre CDM Pipeline dated 1 October 2009

CDM project example

Kuyasa, Cape Town, South Africa

- low-income housing retrofit in 2309 RDP houses
- Install SWH, insulated ceilings, and CFL lighting
- first registered SA project
- first Gold Standard project in housing sectors

Proposal to upscale to a programmatic CDM project:

- VISION: A clearing house which enables and incentivises access to financing for clean energy services in all low income housing in South Africa
- MISSION: To establish a Facility which 1) administers a CDM programme, and 2) leverages and manages access to the additional upfront financing required for the incremental capital costs of sustainable energy interventions in low income housing



CDM Challenges

Complex CDM Modalities & Procedures:

- Transaction cost to hire service providers.

Heavy institutional requirements for project cycle (DNA, DOE Validation, DOE Verification, etc.).

Knowledge gap between CER buyers & sellers.

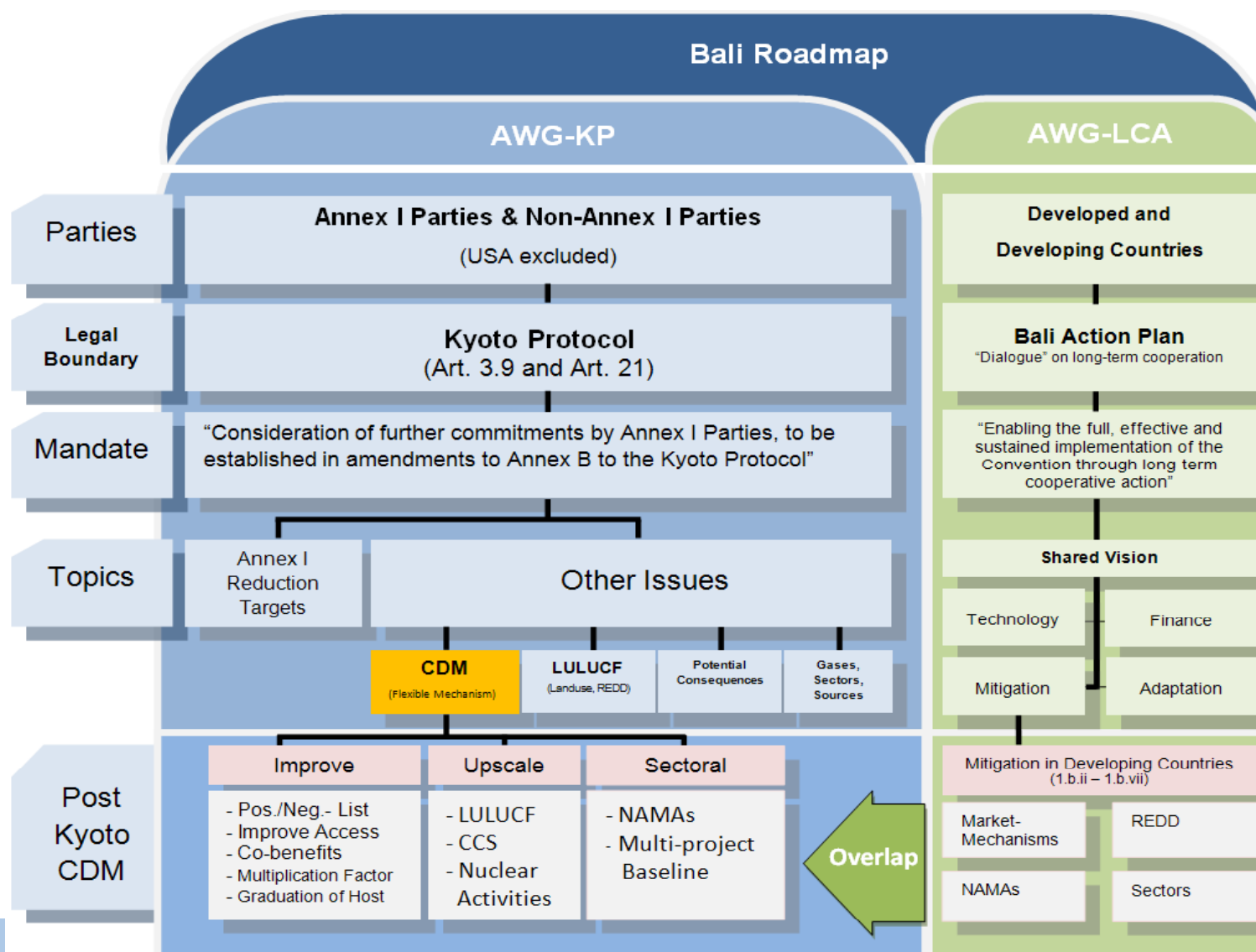
Limited access to finance by potential developers:

- Financial intermediaries lack of knowledge about CDM.
- Lack of trained national CDM consultants.
- Investment climate in host countries (e.g. SS Africa).
- Limited budgets for operations of DNAs.
- Need for national entities capable of bundling projects.

CDM is undergoing gradual reforms and will be part of a new deal

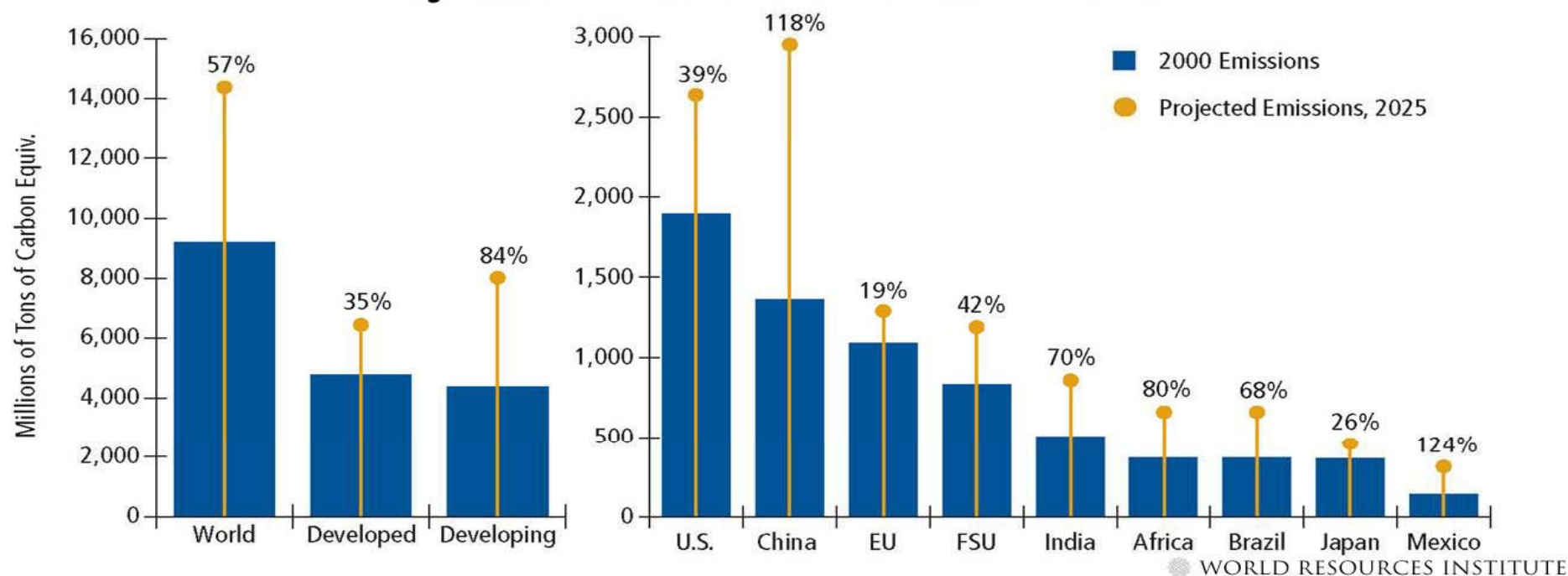
Post-2012 negotiations

The post-2012 negotiations: structure and agenda



The global mitigation challenge

GHG Emissions Projections for 2025



- Largest emitters where not included in the 1st commitment period
- Developed and developing country emissions currently about equal

Annex 1 Mitigation Pledges

Party	Information relating to possible QELROs		Inclusion of LULUCF	Status
	Range or single value by 2020, percentage	Reference year		
Australia	-5% up to -15% or -25%	2000	Y	Officially announced
Belarus	-5% to -10% ⁵	1990	TBD	Officially announced
Canada	-20%	2006	TBD	Officially announced
Croatia ⁶	+6%	1990	Y	Under consideration
European Union	-20 to -30%	1990	N for -20% Y for -30%	Adopted by legislation
Iceland	-15%	1990	Y	Officially announced
Japan	-25%	1990	TBD	Officially announced
Liechtenstein	-20 to -30%	1990	N	Officially announced
Monaco	-20%	1990	--	Officially announced
New Zealand	-10 to -20%	1990	Y	Officially announced
Norway	-30%	1990	Y ⁷	Officially announced
Russian Federation	-10 to -15%	1990	TBD	Officially announced
Switzerland	-20 to -30%	1990	Y	Officially announced
Ukraine	-20%	1990	TBD	Under consideration

*Abbreviations: N = no; TBD = to be determined; Y = yes.

Source: FCCC/KP/AWG/2009/10/Add.4/Rev.2 of 19 Oct. 2009

Developed country aggregate ER targets amount to 10-23%

IPCC scenarios for stabilising climate with fair distribution of effort

Scenario category	Region	2020	2050
A-450 ppm CO₂-eq²	Annex I	–25% to –40%	–80% to –95%
	Non-Annex I	Substantial deviation from baseline in Latin America, Middle East, East Asia (–15% to –30% from BAU)	Substantial deviation from baseline in all regions
B-550 ppm CO₂-eq	Annex I	–10% to –30%	–40% to –90%
	Non-Annex I	Deviation from baseline in Latin America and Middle East, East Asia (<i>0 to –20% from BAU</i>)	Deviation from baseline in most regions, especially in Latin America and Middle East

The fate of the Protocol

- Five new agreements/protocols proposed for COP-15 (Japan, Australia, Tuvalu, Costa Rica and US) – outside the BAP agenda
- EU: 'a single integrated instrument' – incorporating key elements of the KP (=cherry picking)
- G77+China: oppose a single integrated instrument – as it will differentiate between developing countries and modify the burden sharing between Annex 1 vs non-Annex 1

Fear the Kyoto Protocol will be killed

A single integrated instrument

- *The Australien 'schedules approach'*: - all countries develop a national schedule for their long term emissions pathway (bottom-up approach), mitigation commitments and actions, shaped by 'national circumstances', not just Annex 1 or non-Annex 1 status.
- *Overcomming the developed/developing country 'firewall'*
– as the BAP distinction between mitigation commitments/actions in paragraph 1 (b) (i) – developed countries and 1 (b) (ii) – developing countries has come to be known. Such proposals are known as 'cloud issues', i.e. 'general mitigation' actions applicable to all Parties (Japan, US, Australia and Canada pushing). However, they can find no place in the BAP-structure of the negotiation text for these.

Developing countries find this inconsistent with the Convention

Climate Pledges

- <http://www.unep.org/climatepledges/>
- Press release on Sunday 6 December by Achim Steiner, ED of UNEP and Nick Stern, LSE

Thank you!!

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